

< TEST

Biology Chemistry Physics English

1) Changes in the external and internal environment of the animals are detected by:

- A) Receptors
- B) Neurons
- C) Effectors
- D) Nociceptors

☐ A ☐ B ☐ C ☐ D

2) Taste buds are examples of:

- A) Pressure receptors
- B) Thermoreceptors
- C) Photoreceptors
- D) Chemoreceptors

☐ A ☐ B ☐ C ☐ D

3) The _____ receptors are nearly ten times less abundant than _____ receptors:

- A) Cold, heat
- B) Heat, cold
- C) Pain, cold
- D) Cold, heat

☐ A ☐ B ☐ C ☐ D

4) Neuroglia plays a vital role in the nutrition of neurons and their protection by:

- A) Myelin sheath
- B) Meninges
- C) Cerebrospinal fluid
- D) Epithelial cells

☐ A ☐ B ☐ C ☐ D

5) The stimuli of hearing and equilibrium are detected by:

- A) Chemoreceptors
- B) Mechanoreceptors
- C) Photoreceptors
- D) Nociceptors

☐ A ☐ B ☐ C ☐ D

6) The cytoplasmic processes that bring the nerve impulse away from soma are called:

- A) Dendrites
- B) Axons
- C) Neurons
- D) Dendron

☐ A ☐ B ☐ C ☐ D

7) Saltatory impulse moves on:

- A) Motor neurons
- B) Sensory neurons
- C) Myelinated neurons
- D) Relay neurons

☐ A ☐ B ☐ C ☐ D

- 8) Glands and muscles receive directions via:
A) Associative neurons C) Relay neurons
B) Sensory neurons D) Motor neurons
- ☐ A ☐ B ☐ C ☐ D
- 9) Part of brain involved in nervous as well as hormonal coordination is called:
A) Medulla C) Cerebrum
B) Hippocampus D) Hypothalamus
- ☐ A ☐ B ☐ C ☐ D
- 10) Conscious activities performed immediately and involuntarily are called:
A) Biorhythms C) Reflex arcs
B) Reflex actions D) Instinctive actions
- ☐ A ☐ B ☐ C ☐ D
- 11) Pick up the correct path of reflex action:
A) Receptors, sensory neuron, associative neuron, motor neuron and effector
B) Receptors, associative neuron, sensory neuron, motor neuron and effector
C) Receptors, sensory neuron, motor neuron, associative neuron, and effector
D) Receptors, sensory neuron, associative neuron, effector and motor neuron
- ☐ A ☐ B ☐ C ☐ D
- 12) Characteristic gait of a person is controlled by:
A) Medulla C) Pons
B) Cerebellum D) Thalamus
- ☐ A ☐ B ☐ C ☐ D
- 13) While driving on a bumpy road, our brain is protected from physical trauma by:
A) Cerebrospinal fluid C) Meninges
B) Cranium D) Pleural fluid
- ☐ A ☐ B ☐ C ☐ D
- 14) The limbic system is located in an arc between the:
A) Hypothalamus and cerebrum
B) Thalamus and cerebrum
C) Medulla and cerebellum
D) Amygdala and hippocampus
- ☐ A ☐ B ☐ C ☐ D
- 15) The electrical potential that exists across a cell membrane is known as:
A) Membrane potential
B) Action potential
C) Resting membrane potential
D) Active membrane potential
- ☐ A ☐ B ☐ C ☐ D

16) Several autonomic functions, such as breathing, heart rate, blood pressure and swallowing are controlled by:

- A) Pons
- B) Cerebellum
- C) Medulla
- D) Hypothalamus

☐ A ☐ B ☐ C ☐ D

17) Birds are capable to carry out complex activity of flight due to well developed:

- A) Cerebrum
- B) Thalamus
- C) Cerebellum
- D) Hippocampus

☐ A ☐ B ☐ C ☐ D

18) Reflex movements of eyes is controlled by:

- A) Forebrain
- B) Midbrain
- C) Spinal cord
- D) Hindbrain

☐ A ☐ B ☐ C ☐ D

19) Following are parts of forebrain, EXCEPT:

- A) Thalamus
- B) Limbic system
- C) Cerebrum
- D) Medulla

☐ A ☐ B ☐ C ☐ D

20) The right and left cerebral hemispheres are connected by a large band of nerve fibers called:

- A) Medulla
- B) Corpus callosum
- C) Pons
- D) Hippocampus

☐ A ☐ B ☐ C ☐ D

21) The length of axon is always greater than that of dendrites in:

- A) Sensory neurons
- B) Motor neurons
- C) Associative neurons
- D) Relay neurons

☐ A ☐ B ☐ C ☐ D

22) Brain has many cavities called:

- A) Meninges
- B) Canals
- C) Auricles
- D) Ventricles

☐ A ☐ B ☐ C ☐ D

23) The exchange ratio of potassium and sodium ions across the cell membrane of a nerve cell, during rest is respectively:

- A) 1:3
- B) 2:3
- C) 3:1
- D) 3:2

☐ A ☐ B ☐ C ☐ D

24) The action potential cannot _____ one neuron to the next in line:

- A) Travel from
- B) Switch from
- C) Jump from
- D) Move from

☐ A ☐ B ☐ C ☐ D

25) The transmission of the action potential from one neuron to the next in line, occurs through:

- A) Physical contact C) Mechanical process
B) Chemical substances D) Cytoplasmic contact

☐ A ☐ B ☐ C ☐ D

26) Ganglia are the concentrations of:

- A) Axons C) Schwann cells
B) Dendrites D) Somas

☐ A ☐ B ☐ C ☐ D

27) The number of cranial nerves in humans is:

- A) 31 C) 62
B) 12 D) 24

☐ A ☐ B ☐ C ☐ D

28) Meninges consist of:

- A) 2 layers C) 4 layers
B) 3 layers D) 5 layers

☐ A ☐ B ☐ C ☐ D

29) Slowing down of heart beat indicates the activity of:

- A) Somatic nervous system
B) Autonomic nervous system
C) Sympathetic division system
D) Parasympathetic of neurons system

☐ A ☐ B ☐ C ☐ D

30) A threshold stimulus is a/an _____ needed to initiate a nerve impulse:

- A) Minimum stimulus C) Optimum stimulus
B) Maximum stimulus D) Forceful stimulus

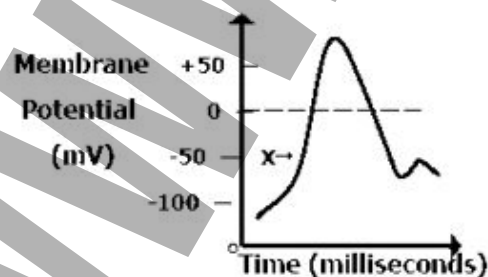
☐ A ☐ B ☐ C ☐ D

31) Signals are transmitted, between the CNS and the rest of the body by:

- A) Central nervous system
B) Peripheral nervous system
C) Autonomic nervous system
D) Somatic nervous system

☐ A ☐ B ☐ C ☐ D

32) In the following diagram of action potential in a neuron, 'x' depicts:



- A) Depolarization C) Repolarization
B) Polarization D) Hyperpolarization

☐ A ☐ B ☐ C ☐ D

33) Emotions are generated by:

- A) Somatic nervous system
B) Peripheral nervous system
C) Central nervous system
D) Sympathetic nervous system

☐ A ☐ B ☐ C ☐ D

34) The membrane of nerve cells is virtually impermeable to all ions, EXCEPT:

- A) Negative organic ions C) Sodium ions
B) Positive organic ions D) Potassium ions

☐ A ☐ B ☐ C ☐ D

35) Sexual arousal is controlled by:

- A) Forebrain C) Hindbrain
B) Midbrain D) Spinal cord

☐ A ☐ B ☐ C ☐ D

36) Skeletal muscles are controlled by:

- A) Somatic nervous system
B) Autonomic nervous system
C) Sympathetic nervous system
D) Parasympathetic nervous system

☐ A ☐ B ☐ C ☐ D

37) The main neurotransmitter that lies outside the central nervous system is:

- A) Dopamine C) Adrenaline
B) Serotonin D) Acetylcholine

☐ A ☐ B ☐ C ☐ D

38) White matter of spinal cord is made up of:

- A) Myelinated nerve fibres C) Mixed nerve fibres
B) Sensory nerve fibres D) Motor nerve fibres

☐ A ☐ B ☐ C ☐ D

39) The site of communication between two nerve cells is called:

- A) Synapse
B) Synapsis
C) Neuromuscular junction
D) Interstitial space

☐ A ☐ B ☐ C ☐ D

40) Nerve impulse is a wave of:

- A) Electrical and chemical change
B) Electrical and mechanical change
C) Mechanical and chemical change
D) Mechanical and physiological change

☐ A ☐ B ☐ C ☐ D

41) A measure of the capacity to do electrical work is called:

- A) Membrane potential
B) Resting membrane potential
C) Electric potential
D) Active membrane potential

☐ A ☐ B ☐ C ☐ D

42) All neurons have very active pumps of _____ located in their cell membranes:

- A) Sodium and potassium
B) Sodium and calcium

- C) Calcium and potassium
D) Calcium and magnesium

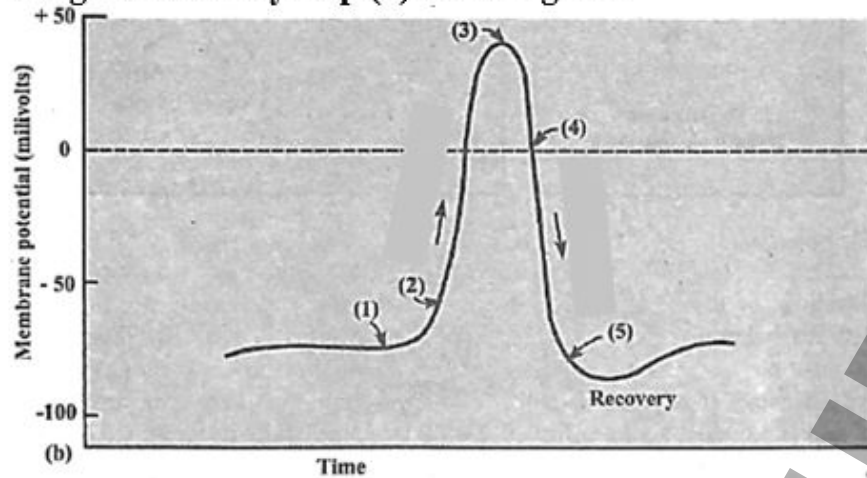
☐ A ☐ B ☐ C ☐ D

43) Resting membrane potential on the cell membrane of neuron or nerve cell, represents the:

- A) Depolarized state C) Polarized state
B) Recovery state D) Repolarized state

☐ A ☐ B ☐ C ☐ D

44) Observe the following figure, and suggest the change being indicated by step (3) in the figure:



- A) Opening up of sodium gates and closure of potassium gates
B) Closure of sodium gates and opening up of potassium gates
C) Opening up of sodium and potassium gates
D) Closure of sodium and potassium gates

☐ A ☐ B ☐ C ☐ D

45) An impulse that jumps from node to node is called:

- A) Threshold impulse C) Normal impulse
B) Saltatory impulse D) Nerve impulse

☐ A ☐ B ☐ C ☐ D

46) A nerve impulse is passed from one neuron to the other through:

- A) Cell body C) Axon
B) Synapse D) Dendrites

☐ A ☐ B ☐ C ☐ D

47) The message is transmitted across synapse in the form of:

- A) Action potential C) Chemical messenger
B) Nerve impulse D) Resting potential

☐ A ☐ B ☐ C ☐ D

48) Acetylcholine is the main transmitter for synapses that lie:

- A) Inside the central nervous system
B) Outside the central nervous system
C) Outside the peripheral nervous system
D) Inside the brain and spinal cord

☐ A ☐ B ☐ C ☐ D

49) Neurotransmitters are the chemicals, released by:

- A) Dendrite endings C) Cell bodies
B) Axon endings D) Synapse

☐ A ☐ B ☐ C ☐ D

50) Value of active membrane potential is:
A) + 50 V C) + 5.0 mV
B) + 0.05 m V D) + 0.05 V

☐ A ☐ B ☐ C ☐ D

PREVIOUS

FINISH TEST

NEXT



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Biology **Chemistry** Physics English

51) Which of the following is a strong electrophile?

- A) Cl^- C) Cl_2
B) Cl^+ D) Cl

☐ A ☐ B ☐ C ☐ D

52) Consider the following statements about nature of carbon and their primary suffix:

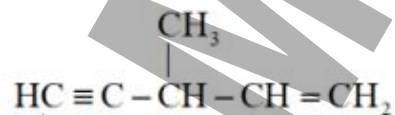
	Nature of carbon	Primary suffix
I	Saturated carbon chain	–ane
II	Unsaturated carbon chain (one $\text{C}=\text{C}$ bond)	–ene
III	Unsaturated carbon chain (two $\text{C}=\text{C}$ bonds)	–adiene
IV	Unsaturated carbon chain (two $\text{C}\equiv\text{C}$ bonds)	–adiyne

Mark the correct statements:

- A) I only C) II and IV
B) II only D) I, II, III and IV

☐ A ☐ B ☐ C ☐ D

53) Consider the following structure of hydrocarbon which have double and triple bonds:



Which of the following is the correct IUPAC name of above hydrocarbon?

- A) 3-Methyl-1-penten-4-yne
B) 3-Methyl-4-penten-1-yne
C) 2-Methyl-1-penten-3-yne
D) 3-Methyl-3-penten-1-yne

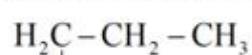
☐ A ☐ B ☐ C ☐ D

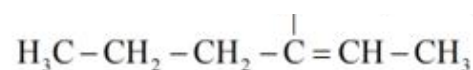
54) Which one of the following physical properties is not shown by benzene?

- A) It is an aromatic hydrocarbon
B) It is colourless liquid at room temperature and one atmospheric pressure
C) It is non-flammable
D) It has a peculiar smell and burning taste

☐ A ☐ B ☐ C ☐ D

55) Consider the following structure of alkene:



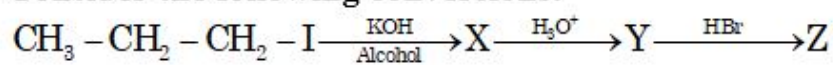


The correct name of the given structure of alkene according to IUPAC is:

- A) 4-Propyl-4-hexene C) 3-Propyl-2-hexene
B) 3-Propyl-3-hexene D) 3-Propyl-3-hexane

☐ A ☐ B ☐ C ☐ D

56) Consider the following conversions:



Which of the above compounds represent X, Y, Z respectively in the conversions?

- A) 2-Propanol, Propene, 2-Bromopropane
B) Propene, 2-Propanol, 2-Bromopropane
C) 2-Bromopropane, Propene, 2-Propanol
D) 2-Propanol, 2-Bromopropane, Propene

☐ A ☐ B ☐ C ☐ D

57) Alkanes have _____ boiling points because they are _____ and have _____ intermolecular forces:

- A) Low, non-polar, weak
B) High, non-polar, strong
C) High, non-polar, weak
D) High, polar, strong

☐ A ☐ B ☐ C ☐ D

58) If excess of methane is used in the reaction of chlorine with methane, the major product obtained is:

- A) Chloromethane
B) Dichloromethane
C) Trichloromethane
D) Tetrachloromethane

☐ A ☐ B ☐ C ☐ D

59) Consider the following statements about benzene:

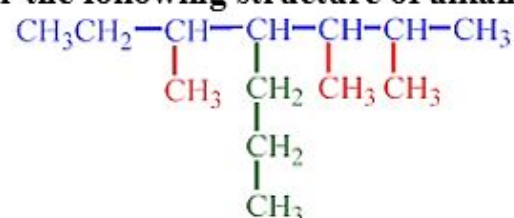
- I. It is highly unsaturated hydrocarbon
II. It is highly stable due to extensive delocalization of π -electrons
III. The word benzene comes from "gum benzoin" (a natural product)
IV. The word phen is derived from Greek word phena means "I bear light"

Which of the above statements is/are correct?

- A) I only C) III and IV
B) II only D) I, II, III and IV

☐ A ☐ B ☐ C ☐ D

60) Consider the following structure of alkane:



The correct name of the given structure of alkane according to IUPAC is:

- A) 4-Ethyl-2,3,5-trimethyl heptane
B) 2,3,5-Trimethyl-4-n-propylheptane
C) 4-n-propyl-2,3,5-Trimethyl heptane
D) 2,3,5-Triethyl-4-n-propylheptane

☐ A ☐ B ☐ C ☐ D

61) Consider the following statements about hydrocarbons.

- I. In saturated hydrocarbons (alkanes) Carbon atoms are bonded by single covalent bond
II. In unsaturated open chain hydrocarbons (alkenes and alkynes) The carbon chain which contains carbon-carbon multiple bonds
III. In saturated cyclic hydrocarbons Carbon atoms are bonded in the form of ring
IV. In aromatic hydrocarbons Contains benzene as the parent member
- Which of the above statement is/are correct?
- A) I only C) III and IV
B) II only D) I, II, III and IV

☐ A ☐ B ☐ C ☐ D

62) Which of the following statements about alkene and arenes is incorrect?

Opt.	Alkenes (e.g. ethene)	Arenes (e.g. benzene)
A)	They are less stable	They are more stable
B)	They have localized pi electrons	They have delocalized pi electrons
C)	They involve electrophilic addition reactions	They involve electrophilic substitution reactions
D)	Pi electrons are less exposed in it	Pi electrons are more exposed in it

☐ A ☐ B ☐ C ☐ D

63) During the nitration of benzene, a nitro group ($-\text{NO}_2$) substitutes at a carbon atom. Which one of the following statements gives the arrangement of the bonds at this carbon atom during the reaction?

Opt.	At the start of reaction	In the intermediate complex	At the end of reaction
A)	Planar	Planar	Planar
B)	Planar	Tetrahedral	Tetrahedral
C)	Planar	Tetrahedral	Planar
D)	Tetrahedral	Planar	Tetrahedral

☐ A ☐ B ☐ C ☐ D

64) When ethene is treated with cold dilute KMnO_4 in basic medium, the product formed will be?

- A) 1,2-Ethanediol C) 1,1-Ethanediol
B) 1,3-Propanediol D) Ethanol

☐ A ☐ B ☐ C ☐ D

65) Toulene on oxidation by acidified KMnO_4 or $\text{K}_2\text{Cr}_2\text{O}_7$ gives which of the following major

product?

- A) Benzaldehyde
B) Benzyl alcohol
C) Benzoic acid
D) Phenol

☐ A ☐ B ☐ C ☐ D

66) Which of the following statements is incorrect about atomic orbital treatment of benzene?

- A) Each carbon atom in benzene is sp^2 hybridized
B) Each angle in benzene is 120°
C) Overlapping of $2p_z$ orbitals gives diffused or delocalized electron cloud
D) It confirms regular tetrahedral structure of benzene

☐ A ☐ B ☐ C ☐ D

67) The alkyl halides which give alkenes on dehydrohalogenation with alcoholic potash must have:

- A) α -H
B) γ -H
C) β -H
D) δ -H

☐ A ☐ B ☐ C ☐ D

68) What happens when one mole of ethane is mixed with six moles of chlorine in the dark at room temperature?

- A) There is no reaction
B) CH_3CCl_3 and HCl are formed
C) CH_3CH_2Cl and HCl are formed
D) CCl_3CCl_3 and HCl are formed

☐ A ☐ B ☐ C ☐ D

69) Which one of the following reactions would not give ethene?

- A) Adding excess hot concentrated sulphuric acid to ethanol-1-ol
B) Adding warm aqueous sodium hydroxide to bromoethane
C) Adding warm ethanolic sodium hydroxide to bromoethane
D) Passing ethanol-2-ol vapour over heated aluminium oxide

☐ A ☐ B ☐ C ☐ D

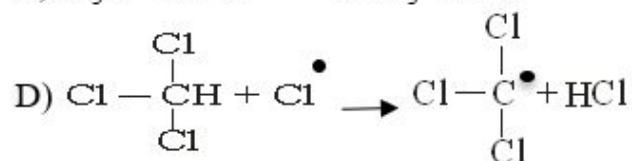
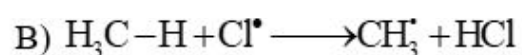
70) Which of the following is incorrect statement about differences between elimination and substitution?

Opt.	Elimination	Substitution
A)	Less polar solvent favours it	More polar solvent favours it
B)	A stronger base favours it	A stronger nucleophile favours it
C)	Steric hindrance favours it	Steric hindrance does not favours it
D)	Low temperature favours it	High temperature favours it

☐ A ☐ B ☐ C ☐ D

71) On the chlorination of methane in the presence of diffused sunlight, a mixture of products are obtained. Which of the following is termination step:

- A) $Cl-Cl \longrightarrow Cl^\bullet + Cl^\bullet$
C) $CH_3^\bullet + Cl^\bullet \longrightarrow CH_3-Cl$



☐ A ☐ B ☐ C ☐ D

72) The introduction of (X) group in the presence of FeBr_3 in benzene is called:

- A) Halogenation C) Alkylation
B) Carbonyl reduction D) Formylation

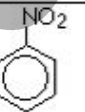
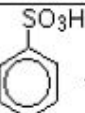
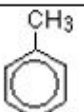
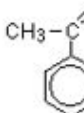
☐ A ☐ B ☐ C ☐ D

73) Which of the following is free radical substitution reaction?

- A) $\text{CH}_3\text{CHO} + \text{HCN} \longrightarrow \text{CH}_3\text{CH}(\text{OH})\text{CN}$
B) $\text{C}_2\text{H}_6 + \text{Cl}_2 \xrightarrow{h\nu} \text{C}_2\text{H}_5\text{Cl} + \text{HCl}$
C) $\text{C}_2\text{H}_4 + \text{Br}_2 \xrightarrow{\text{CCl}_4} \text{C}_2\text{H}_4\text{Br}_2$
D) $\text{CH}_3-\text{Cl} + \text{OH}^- \longrightarrow \text{CH}_3-\text{OH} + \text{Cl}^-$

☐ A ☐ B ☐ C ☐ D

74) Benzene shows the following reactions:

	Type of reactions	Reagents	Chemical reaction
I	Nitration	Conc. HNO_3 , Conc. H_2SO_4 $50^\circ - 55^\circ \text{C}$	 + $\text{HNO}_3 \longrightarrow$  + H_2O
II	Sulphonation	Conc. H_2SO_4 80°C	 + $\text{H}_2\text{SO}_4 \longrightarrow$  + H_2O
III	Alkylation	CH_3Cl , AlCl_3	 + $\text{CH}_3\text{Cl} \longrightarrow$  + HCl
IV	Acylation	CH_3COCl , AlCl_3	 + $\text{CH}_3-\text{C}(=\text{O})-\text{Cl} \longrightarrow$  + HCl

The mechanism shown by the above reactions is:

- A) Electrophilic substitution reaction
B) Nucleophilic substitution reaction
C) Acid base reaction
D) β -elimination reaction

☐ A ☐ B ☐ C ☐ D

75) All of the following are correctly matched EXCEPT:

Opt.	Test/Reaction	Identification/Product
A)	Reaction of ammonical AgNO_3 with alkene	Test to detect unsaturation (White ppt are obtained)
B)	Br_2/CCl_4 with alkene	Test to detect unsaturation reddish brown colour of Br_2 is discharged
C)	Ozonolysis of alkene	To locate double bond in alkene
D)	Catalytic hydrogenation of vegetable oil	Vegetable ghee

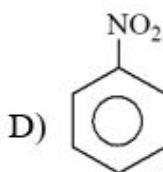
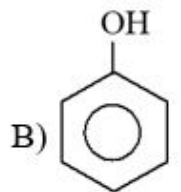
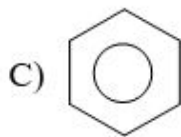
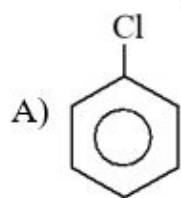
☐ A ☐ B ☐ C ☐ D

76) When different alkenes are treated with hot concentrated KMnO_4 solution, different products are obtained. Which of the following alkenes produces two moles of carboxylic acids?

- A) $\text{H}_2\text{C}=\text{CH}_2$ C) $\text{R}^1\text{R}^2\text{C}=\text{CR}^3\text{R}^4$
B) $\text{R}-\text{CH}=\text{CH}-\text{R}$ D) $\text{R}^1\text{R}^2\text{C}=\text{CH}^3\text{R}^4$

☐ A ☐ B ☐ C ☐ D

- 77) A substance which deactivates the aromatic ring to further substitution is called a deactivating substituent. Which of the following is strongly deactivating group attached with benzene ring:



☐ A ☐ B ☐ C ☐ D

- 78) Which property of benzene may be directly attributed to the stability associated with its delocalized electrons?

- A) It has a low boiling point
B) It does not conduct electricity
C) Its ΔH_f is positive
D) It tends to undergo electrophilic substitution rather than addition reaction

☐ A ☐ B ☐ C ☐ D

- 79) The IUPAC name of $\text{CH}_3\text{-CH}(\text{C}_2\text{H}_5)\text{-CH}_2\text{-C}(\text{CH}_3)_2\text{-CH}_3$ is: (3)

- A) 2,2-Dimethyl-4-ethylpentane
B) 2,3-Dimethyl-4-ethylpentane
C) 2,2,4-Trimethylhexane
D) 2,4-Dimethyl-2-ethylpentane

☐ A ☐ B ☐ C ☐ D

- 80) Among the following compounds that can be most readily nitrated is:

- A) Benzoic acid
B) Bromobenzene
C) Benzene
D) Aniline

☐ A ☐ B ☐ C ☐ D

- 81) Which of the following methods is not used to prepare alkene?

- A) Dehydration of alcohol
B) Dehydrohalogenation of alkyl halide
C) Dehalogenation of vicinal dihalides
D) Dehalogenation of tetrahalides

☐ A ☐ B ☐ C ☐ D

- 82) When excess methane is treated with chlorine, the mixture of halogenoalkanes are obtained. Condition for the reaction is/are?

- A) Reaction of methane with chlorine in the presence of dil H_2SO_4
B) Reaction of methane with chlorine in the presence of catalyst
C) Reaction of methane with chlorine in the presence of diffused sunlight
D) Reaction of methane with chlorine in the presence of conc. H_2SO_4

☐ A ☐ B ☐ C ☐ D

83) In benzene electrons are delocalized making it a very stable molecule. Greater is the resonance energy, greater is the stability.

The resonance energy of benzene is:

- A) -150.5kJmol^{-1} C) -358kJmol^{-1}
B) $+150.5\text{kJmol}^{-1}$ D) $+358\text{kJmol}^{-1}$

☐ A ☐ B ☐ C ☐ D

84) Which of the following are optimum conditions in order to get good quality of polythene as a result of polymerization of ethene?

- I. Temperature 400°C
II. Pressure 100atm
III. Amount of oxygen 0.1%
IV. Catalyst $\text{Al}(\text{C}_2\text{H}_5)_3 + \text{TiCl}_4$

- A) I and II only C) I, III and IV
B) I, II and III D) I, II, III and IV

☐ A ☐ B ☐ C ☐ D

85) Alkenes are more reactive than alkanes. This is because:

- A) The π electrons of a double bond are located much farther from the carbon nuclei and are thus less firmly bound to them
B) The overlap of atomic orbitals in forming a π bond is not as effective as that in σ bonds.
C) Both A and B
D) Neither A nor B

☐ A ☐ B ☐ C ☐ D

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Biology Chemistry **Physics** English

- 86) A capacitor has a capacitance of 2.5×10^{-8} F. In the charging process, electrons are removed from one plate and transferred to other one. When the potential difference between the plates is 450 V, how many electrons have been transferred?

A) 7×10^{13} electrons C) 7×10^{11} electrons
B) 7×10^{16} electrons D) 7×10^9 electrons

☐ A ☐ B ☐ C ☐ D

- 87) One of the plates of a capacitor is given a charge of +5 C. The charge on the other plate is:

A) 10 C C) -5 C
B) -10 C D) +5 C

☐ A ☐ B ☐ C ☐ D

- 88) When a parallel plate capacitor is connected to a source of constant potential difference,

A) The whole of the charge drawn from the source is stored in the capacitor
B) The whole of the energy drawn from the source is stored in the capacitor
C) The capacity of the capacitor is decreased
D) The potential difference across the capacitor becomes infinite

☐ A ☐ B ☐ C ☐ D

- 89) A parallel plate capacitor has capacitance C. The separation between plates is halved and dielectric is inserted between plates. The new capacitance becomes 7C. The dielectric constant of medium is:

A) 3.5 C) 5.5
B) 4.5 D) 6.5

☐ A ☐ B ☐ C ☐ D

- 90) A parallel plate capacitor has a capacitance of 25 pF in air and 112.5 pF when immersed in oil. The dielectric constant of the oil is:

A) 4.5 C) 3.7
B) 2.9 D) 5.3

☐ A ☐ B ☐ C ☐ D

- 91) A battery is permanently connected to a parallel plate capacitor and the energy stored is 10 joules. When

one plate is moved so that separation of the plates is halved, the energy now stored in joule is:

- A) 40 J C) 20 J
B) 5 J D) 2.5 J

☐ A ☐ B ☐ C ☐ D

92) Which of the following is not the expression for electric P.E stored in capacitor?

- A) $\frac{1}{2} QV$ C) $\frac{1}{2} E^2 \epsilon_r \epsilon_0 (Ad)$
B) $\frac{1}{2} \frac{Q^2}{C}$ D) $\frac{1}{2} \frac{C^2 V^2}{Q}$

☐ A ☐ B ☐ C ☐ D

93) The capacity of a parallel plate capacitor is 5 μF and it is given a charge of 20 μC . The electrical energy stored in erg is:

- A) 400×10^0 C) 800×10^0
B) 8000×10^{-5} D) 4000×10^{-5}

☐ A ☐ B ☐ C ☐ D

94) Capacitance of a Capacitor in Vacuum is given by:

- A) $\frac{A\epsilon_0}{d}$ C) $\frac{A\epsilon_r}{d}$
B) $\frac{Ad}{\epsilon_0}$ D) $\frac{A}{\epsilon_0 d}$

☐ A ☐ B ☐ C ☐ D

95) If a negatively charged capacitor plate is brought near the disc of a positively charged gold-leaf electroscope, then the divergence of gold leaves:

- A) Increases C) Remains same
B) Decreases D) None of these

☐ A ☐ B ☐ C ☐ D

96) One of the plates X of a capacitor is connected to a source of +10 V. The other plate Y is earthed. What is the potential of the plate Y?

- A) -10 V C) Zero
B) 10 V D) 20 V

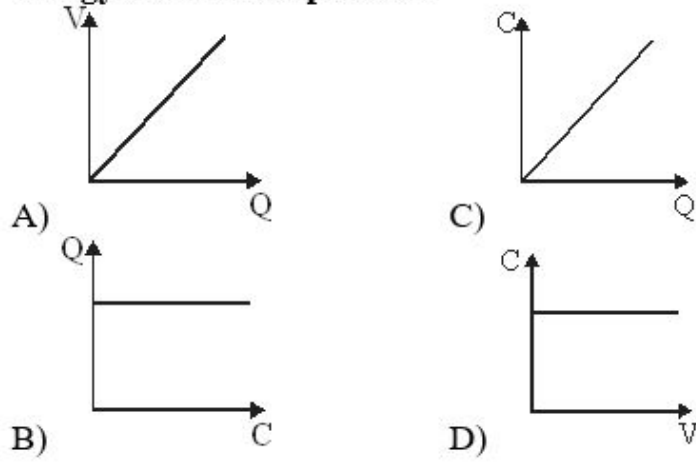
☐ A ☐ B ☐ C ☐ D

97) If a 2.5 μF capacitor is to have an energy content of 5 joule, it must be placed across a potential difference of:

- A) 500 V C) 2000 V
B) 1000 V D) 4000 V

☐ A ☐ B ☐ C ☐ D

98) For which of the following graph the area represents energy stored in capacitor?



- ☐ A ☐ B ☐ C ☐ D

99) Capacitance of a capacitor does not depend upon:

- A) Area of plate
B) Distance between plates
C) Medium between plates
D) Material of the plates

- ☐ A ☐ B ☐ C ☐ D

100) When the potential difference across the capacitor is decreased by dielectric then the capacitance of the capacitor will be:

- A) Zero
B) Remain same
C) Decreased
D) Increased

- ☐ A ☐ B ☐ C ☐ D

101) Ideally speaking a capacitor is fully charged after:

- A) Two times constant
B) Three times constant
C) Four times constant
D) Infinite time

- ☐ A ☐ B ☐ C ☐ D

102) Electric field lines between plates of a charged parallel plate capacitor are:

- A) Unequally Spaced
B) Curved
C) Equally spaced
D) Any of these

- ☐ A ☐ B ☐ C ☐ D

103) The net charge on capacitor plates is ____ if Q is magnitude of charge on either plate of a parallel plate capacitor:

- A) 2Q
B) Q
C) Zero
D) 4Q

- ☐ A ☐ B ☐ C ☐ D

104) One farad is equal to:

- A) One coulomb per metre
B) One coulomb per volt
C) One volt per coulomb
D) One volt per metre

- ☐ A ☐ B ☐ C ☐ D

105) In the relation $C = \frac{A\epsilon_0}{d}$ to find capacitance of parallel plate capacitor, A is:

- A) Area of either plate
B) Total area of both plates
C) Area of connected battery
D) Area of dielectric

- ☐ A ☐ B ☐ C ☐ D

The capacitance of capacitor increases by placing

- 106) dielectric between its plates due to:
A) Electric polarization of dielectric
B) Magnetic polarization of dielectric
C) Increase in electric field by dielectric
D) Increase in potential difference by dielectric
- ☐ A ☐ B ☐ C ☐ D
- 107) If the time constant of an RC-circuit is large, capacitor discharges:
A) Linearly with time
B) Rapidly
C) Slowly
D) None of these
- ☐ A ☐ B ☐ C ☐ D
- 108) The electronic flashguns in cameras is an application of:
A) Gauss's law
B) Capacitor
C) Ohm's law
D) Inductor
- ☐ A ☐ B ☐ C ☐ D
- 109) The ratio of instantaneous charge and maximum charge on plates of capacitor at $t = RC$ is (during discharging):
A) 36.8%
B) 63.2%
C) 92.5%
D) 87.3%
- ☐ A ☐ B ☐ C ☐ D
- 110) A capacitor which has a capacitance of 1 F will:
A) Be fully charged in 1 second by a current of 1 A
B) Store 5 C of charge at a potential difference of 5 volt
C) Gain 1 joule of energy when 1 coulomb of charge is stored on it
D) Discharge in 1 second when connected across a resistor of resistance 3 ohm
- ☐ A ☐ B ☐ C ☐ D
- 111) The area of plates of 1 farad capacitor separated by 8.85 mm placed in air is:
A) 10^5 m^2
B) 10^{-8} m^2
C) 10^9 m^2
D) 10^{-15} m^2
- ☐ A ☐ B ☐ C ☐ D
- 112) $\text{Ohm} \times \text{farad} = ?$
A) Charge
B) Potential
C) Current
D) Time
- ☐ A ☐ B ☐ C ☐ D
- 113) A capacitor is charged with a battery and then it is disconnected. A slab of the dielectric is now inserted between the plates then:
A) The charge in the plates reduces and potential difference increases
B) Potential difference between the plates increases, stored energy decreases and charge remains the same
C) Potential difference between the plates decreases, stored energy decreases and charge remains unchanged
D) None of these
- ☐ A ☐ B ☐ C ☐ D
- 114) A $1 \mu\text{F}$ capacitor of a TV is subjected to 4000 V potential difference. The energy stored in capacitor is:

capacitor is:

A) 8 J

B) 16 J

C) 4×10^{-3} J

D) 2×10^{-3} J

☐ A

☐ B

☐ C

☐ D

115) The capacitance of parallel plate capacitor depends on:

A) The type of metal used

B) The thickness of plate

C) The potential applied across the plates

D) The separation between the plates

☐ A

☐ B

☐ C

☐ D

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Biology Chemistry Physics **English**

116) Directions: Fill in the blank with appropriate option.

Since my gums were sliced from accidentally eating a piece of glass, I had to have _____ surgery.

- A) Oral C) Substantial
B) Aural D) Penned

☐ A ☐ B ☐ C ☐ D

117) The region _____ which they were passing was known as the Land of Thirst and Death.

- A) Through C) In
B) Among D) From

☐ A ☐ B ☐ C ☐ D

118) If you're worried about your health, share your _____ with your doctor.

- A) Coteries C) Anxieties
B) Ecstasies D) Loyalties

☐ A ☐ B ☐ C ☐ D

119) Draping the _____ over her face, she masked her features from the crowd.

- A) Cloak C) Click
B) Clock D) Clunk

☐ A ☐ B ☐ C ☐ D

120) The old adage, you reap what you _____, means that whatever one spreads they also will gain.

- A) So C) Sue
B) Sew D) Sow

☐ A ☐ B ☐ C ☐ D

121) As the Secretary of Defense, it is your responsibility to remain _____ to threats against Homeland Security.

- A) Vigilant C) Groggy
B) Croaky D) Geeky

☐ A ☐ B ☐ C ☐ D

122) The couple's property stemmed out over a(n) _____ area, extending all the way to the road and back to the

river's edge.

- A) Expensive
- B) Expansive

- C) Muddy
- D) Marshy

☐ A ☐ B ☐ C ☐ D

- 123)** The police have the _____ and authority to enforce the law, as their actions are condoned and supported by the government.

- A) Rite
- B) Writ

- C) Write
- D) Right

☐ A ☐ B ☐ C ☐ D

- 124)** It is better for me to _____ than to shed the blood of an innocent boy.

- A) Died
- B) Die

- C) Had died
- D) Have died

☐ A ☐ B ☐ C ☐ D

- 125)** When water begins to _____, small bubbles form around the edge of the pot.

- A) Fuse
- B) Fizz

- C) Phase
- D) Faze

☐ A ☐ B ☐ C ☐ D

- 126)** Uncle Jamil loves to _____ stuff, filling his house with useless objects.

- A) Horde
- B) Hard

- C) Hoard
- D) Herd

☐ A ☐ B ☐ C ☐ D

- 127)** After the acrobat completed her _____ at the Barnum and Bailey Circus, everyone in the crowd applauded loudly.

- A) Stent
- B) Scent

- C) Serpent
- D) Stunt

☐ A ☐ B ☐ C ☐ D

- 128)** The first time I attempted to _____ dough, the kitchen looked like a hurricane had hit with flour spread out all over the kitchen floor.

- A) Need
- B) Knead

- C) Kneel
- D) Aide

☐ A ☐ B ☐ C ☐ D

- 129)** The camper is not _____ and can be easily moved by a small vehicle.

- A) Stationery
- B) Stationary

- C) Farmer
- D) Former

☐ A ☐ B ☐ C ☐ D

- 130)** _____ the hail of insects, a man came running.

- A) Across
- B) By

- C) Through
- D) For

☐ A ☐ B ☐ C ☐ D

- 131)** Directions: Choose the correct spelling:

A) Blushing

C) Balushing

B) Blueshing

D) Blusing

☐ A ☐ B ☐ C ☐ D

132) A) Conffident
B) Confedent

C) Confident
D) Konfident

☐ A ☐ B ☐ C ☐ D

133) A) Faragment
B) Fragment

C) Fraghment
D) Fragment

☐ A ☐ B ☐ C ☐ D

134) A) Ditermained
B) Determyned

C) Determinid
D) Determined

☐ A ☐ B ☐ C ☐ D

135) A) Restriction
B) Rectriction

C) Restricsion
D) Ristrection

☐ A ☐ B ☐ C ☐ D

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